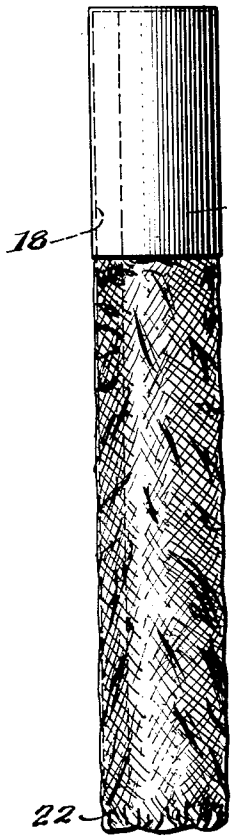
July 25, 1933. E. WERY 1,919,610

POCKET UMBRELLA

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Fig. 1.



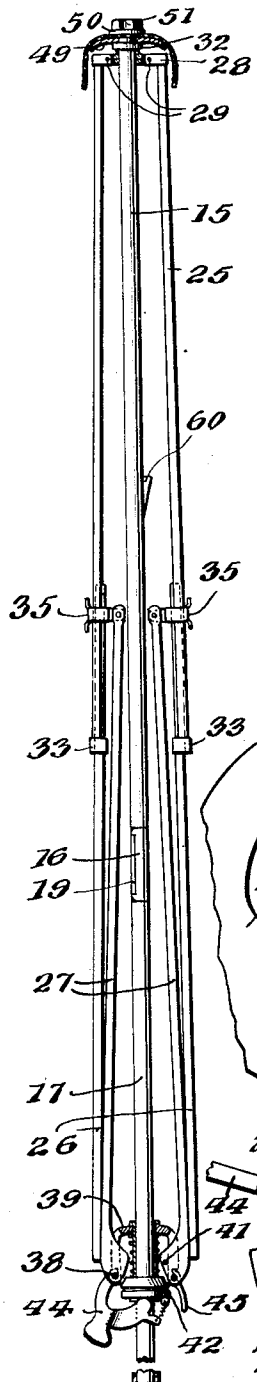


Fig. 2.

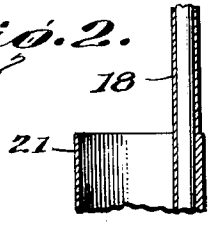


Fig. 5.

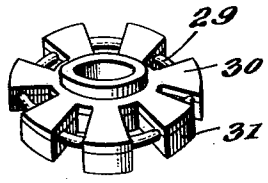


Fig. 3.

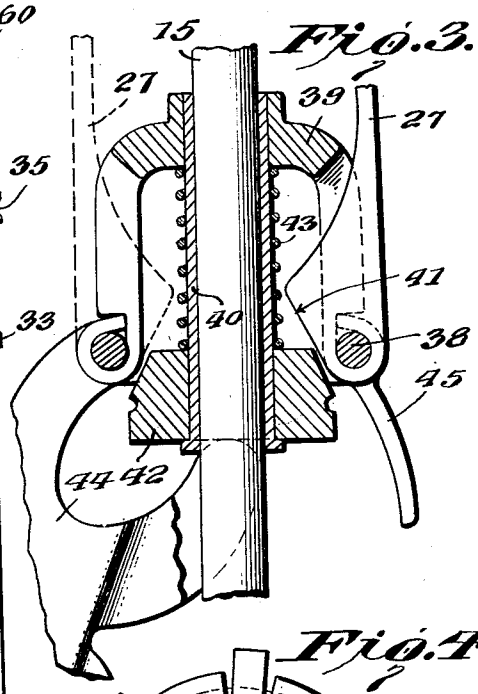
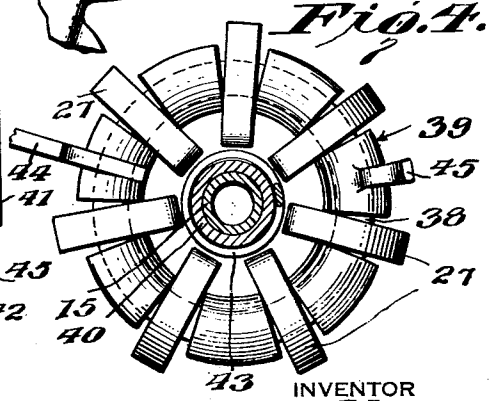


Fig. 4.



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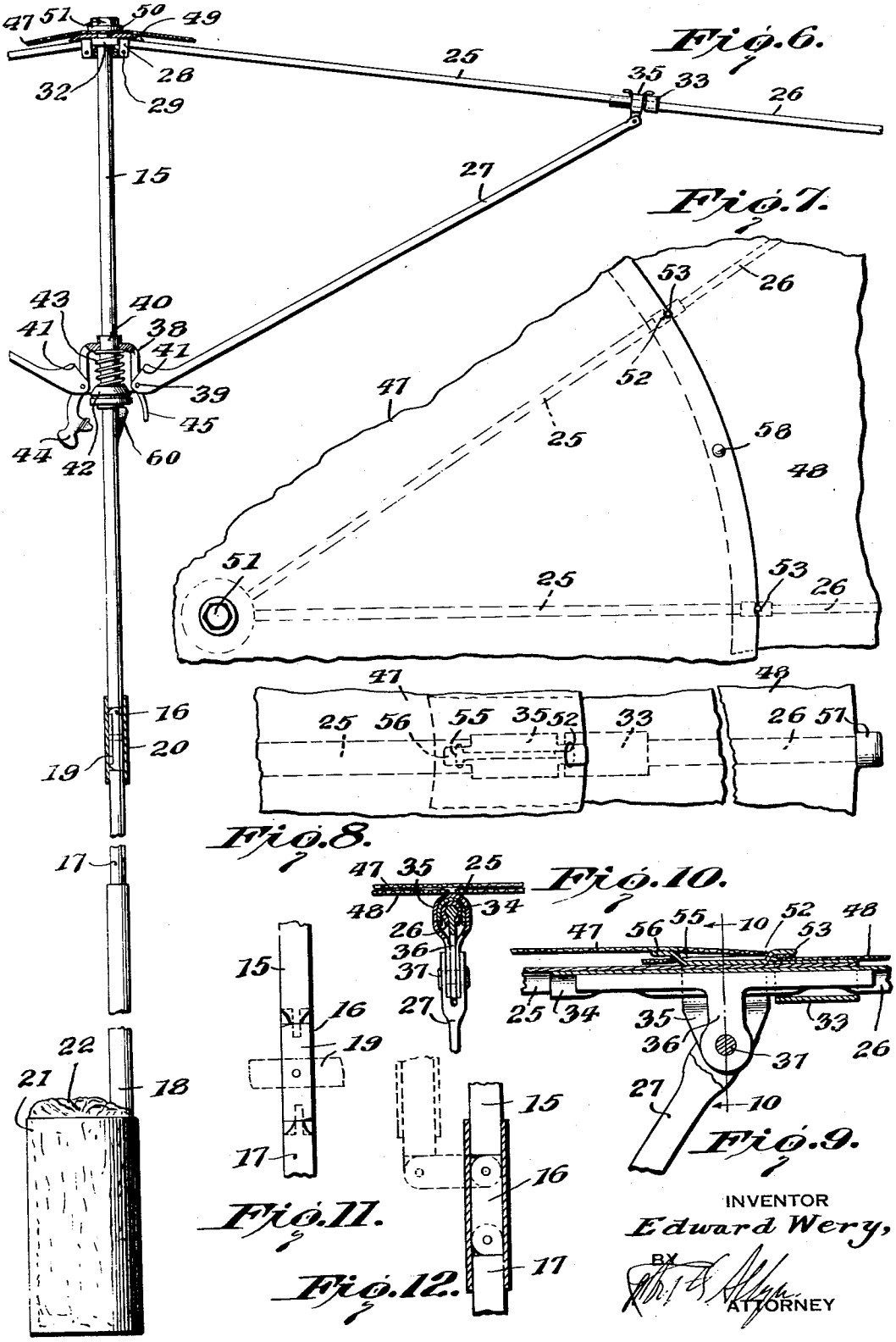


Fig. 6.

Fig. 7.

Fig. 8.

Fig. 10.

Fig. 11.

Fig. 12.

Fig. 9.

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POCKET UMBRELLA

Application filed June 7, 1932. Serial No. 615,801.

My invention relates to constructions commonly termed umbrellas.

The main object is to provide a construction which can be collapsed into a very small space.

The special object is to provide a construction which has a handle and a case constructed as a unitary article of manufacture, sale and use.

Another object is to provide a construction which is durable.

Another object is to provide a construction which can be readily extended or contracted as occasion may require.

Another object is to provide a construction having a cover which can be readily applied or removed.

According to my invention I provide a shaft or rod which is made up of a number of sections capable of being collapsed and folded into a compact space. One end of this shaft carries the framework or ribs, and the other end of the shaft constitutes a handle and is provided with a member constituting a handle and carrying case. Each rib consists of two parts slidably connected together. The upper part of each rib is hinged to a spider and provided with a stop shoulder, and the outer part of the rib carries the outer part of the covering. The inner end of the outer part of each rib is connected by an arm to a spider slidable on the shaft. This sliding spider is provided with means for initiating the spreading movement of the umbrella.

Fig. 1 is a side view of a construction embodying my invention in its compact or "pocket" form.

Fig. 2 is a side view and partial section showing the frame partially extended.

Fig. 3 is an enlarged longitudinal sectional view showing the sliding spider and attached parts.

Fig. 4 is a section and plan of the parts shown in Fig. 3.

Fig. 5 is a perspective view of the upper spider.

Fig. 6 is a side view showing a part of the skeleton framework of the umbrella spread in position for use.

Fig. 7 is a plan view showing the framework of the cover and the frame spread out.

Fig. 8 is an enlarged fragmentary plan showing the detail of the covering.

Fig. 9 is a fragmentary longitudinal sectional view showing one of the joints of a rib.

Fig. 10 is a transverse sectional view of the joint on the line 10—10 of Fig. 9.

Fig. 11 is a fragmentary view showing the folding joint in the main shaft.

Fig. 12 is a detail sectional view of another form of folding joint.

The main shaft consists of the upper or tip portion 15, the hinged link 16, the intermediate portion 17, and the handle portion 18. Portion 16 is hinged in a suitable manner to the parts 15 and 17 and may be provided with a latch 19 adapted to hold the parts steady when in the position shown in Fig. 6. A sliding sleeve 20 may also be provided for reinforcing the hinged parts, such a sleeve to be frictionally held or held by means of the spring finger or latch. The lower or handle member 18 slides telescopically on the end 17 of the shaft and is preferably provided with a cup-like portion 21 adapted to form a handle and also adapted to slip over the upper end of the frame when the umbrella is folded up or collapsed. A waterproof portion 22 secured in the mouth of the cup member 21 is adapted to be drawn or stretched over the balance of the folded framework so as to, in conjunction with the parts 21, form a complete carrying case for the umbrella so that it is possible to fold up the umbrella when wet and to cover it so as to protect the clothing when carrying the folded umbrella in the pocket or otherwise.

Each rib consists of an upper part 25, an outer part 26 and a spreading arm 27. The upper part 25 is provided with an elbow 28, one end of which is offset inwardly and downwardly from the upper end of the member 25 and hinged to the wire 29 carried by the upper spider. This spider consists of two slotted discs 30 and 31 which clamp the ring 29 between them. The spider is mounted on the upper end of the shaft

and the shaft is provided with an abutment 32 against which the elbows abut when the frame is spread as shown in Fig. 6. The rib part 25 is provided with a tubular portion 33 through which the part 26 slides and the part 26 is provided with an extension 34 which extends above the slide 35. The rib part 26 is provided with an offset portion 36 which extends into the spreading end of the spider arm 27. A single pin or rivet 37 passes through the end of the spreader 27 through ears on the slide 35 and through the offset 36 on the rib member 26. The offset 36 may be formed as a part of an insert crimped into the upper end of the rib portion 26 as is customary in umbrella frame constructions.

The inner ends of all of the spreading arms 27 are hinged to a wire or ring 38 formed as a part of a spider, the body 39 of which is slidable on the shaft 15. This spider also has a tubular portion 40. Each spreader arm is provided with an inclined cam shoulder 41 which faces toward the shaft and on the tubular portion 40 of the spider is mounted a spreading member 42 in the form of a cone-like cam or ring.

This spreader ring is normally under the pressure of a spring 43 on the tube 40 but the spring is adapted to be compressed when the ring 42 is pressed upwardly on the tube 40 so that the ring may be pressed against the inclined cam shoulders 41 to apply a biasing action to the spreader arms. A lever 44 hinged to the spider may be provided to facilitate pressure endwise against the ring 42 and a finger piece 45 may be provided opposite the finger lever for convenience in operation.

The cover may be formed of any suitable material but preferably of thin and very elastic sheet rubber. The cover may be formed in one piece or in a number of pieces, for instance, the central section 47 and the outer section 48. The central section is clamped between washers 49 and 50 on the shaft which may be held by a screw or bolt 51. The lower washer is preferably arched or curved immediately over the upper ends of the ribs to serve as a support for the covering fabric in order to keep the metal of the ribs from wearing or tearing it in the operation of the umbrella. The outer edge of the central section may be provided with openings or eyelets 52 through which prongs 53 on the slide 35 may be hooked so that the fabric may be stretched and held tight and smooth over the ribs when extended. The outer section 48 may likewise be formed of elastic rubber or other suitable waterproof fabric and may itself be formed either of a single annular section or a number of similar sections.

The inner edge of the section 48 may be provided with a series of openings or eyelets 55 to receive prongs 56 on the slide 35. The outer edge of the section 48 may be provided with a cup or eyelet 57 adapted to be slipped over the end of the rib member 26. Intermediate the ribs the sections 47, 48, may be connected if desired at a number of points, for instance, by means of snap fasteners 58. By forming the cover in two sections in this way with the inner section overlapping the outer section, passages are provided to permit the relief of pressure from the underside so as to reduce the danger of turning the umbrella inside out in a wind. It will thus be seen that the cover is attached without the necessity of stitching or sewing so that it is possible to readily replace the cover when desired.

To extend the umbrella from the position of Fig. 1, it is merely necessary to pull the cup member 21 lengthwise sufficiently to free it from the upper end of the frame whereupon the handle can be straightened out into the position shown in Fig 6 where it is held by means of the latch 19 and/or a sliding sleeve 20, the cover 22 being tucked into the cup 21. The lower spider is then drawn down the shaft until the slides 35 engage the tubes 33. The finger piece sections 44 and 45 are then grasped and pressure applied on the spreader ring 42 so as to coact with the shoulders 41 and start the spreading action of the arms 27. This spreading action is also aided by the tension of the cover on the ribs. Continued pressure on the ring 42 swings all of the spreader arms outwardly and thus extends the telescopic ribs. When the lower spider is thrust back again along the shaft it carries the spreader arms and extends the frame in the usual manner, whereupon the frame is held by the usual spring catch 60.

By this construction I have provided an umbrella which can be of full size standard dimensions when spread and with a full length handle which, however, can be knocked down or collapsed into a very small space.

I claim:

1. An umbrella frame having a folding rod with ribs provided with offset elbows hinged around the tip of the rod and clamp washers for holding the center of a cover fabric, the inner washer having a curved edge extending over the elbows to protect the fabric when opening and closing the umbrella.

2. An umbrella frame comprising a folding rod having a spider at the tip with an abutment member above the spider, ribs having offset elbows hinged to said spider, the ends of the elbows abutting against the abutment member when the ribs are spread to prevent turning the frame inside out.

3. In an umbrella having a jointed rod with main rib members hinged to the upper

end of the rod; extension rib members slidable in the main rib members and each having an eye offset inwardly toward the rod and having its upper end extending upwardly from the eye to brace the extension in the main rib member, a slide loop embracing each main rib member and its companion extension member, a spreader arm having one end connected by a single rivet to each slide loop and the adjacent eye, the other end of each arm adapted to have a hinged and sliding connection with the rod.

4. An umbrella comprising a jointed rod, telescopic ribs hinged to the upper end of the rod, a spider slidable on said rod, spreader arms hinged to the spider and the ribs, and means carried by the spider for biasing the spreader arms to extend the ribs when the spider is pulled down to extend the ribs.

5. An umbrella comprising a jointed rod, telescopic ribs hinged to the upper end of the rod, a spider slidable on said rod, spreader arms hinged to the spider and the ribs, and a spring pressed manually operable ring having a cam surface carried by the spider for biasing the spreader arms when the spider is pulled down to extend the ribs.

6. In an umbrella having a jointed rod and telescopic ribs hinged to the tip of the rod; a sliding loop secured to each rib and having prongs, an elastic cover portion clamped to the rod and having eyes receiving respective prongs of said loops.

7. In an umbrella having a jointed rod and telescopic ribs hinged to the tip of the rod; a sliding loop secured to each rib and having prongs and an outer cover section having sockets engaged over the outer ends of the ribs and having eyes receiving respective prongs of said loops.

EDW. WERY.